Fivemile

Lake Overview

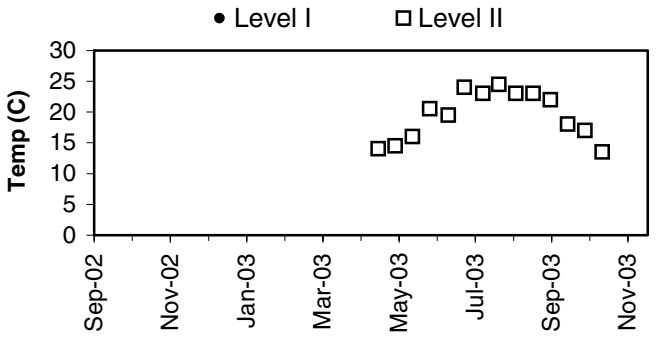
Volunteers monitored Fivemile Lake in the 1980s and continued through 2003, with a four-year gap in the early 1990s. The current data identify this lake as moderately high in primary productivity (mesotrophic) with good water quality. The strong tea color of the water affects clarity, making the TSI-Secchi considerably higher than other trophic indicators. Since the lake surface makes up only 6% of the drainage area, direct precipitation is not as important as watershed inputs. Land use analysis of 2002 aerial photographs showed over 58% of the surrounding watershed has been developed for uses other than agriculture. There are five Class 2 wetlands in the watershed, including one which adjoins the lake along a large portion of the shoreline (King County, 1990).

Fivemile Lake has no public access boat ramp, but car top boats may be launched from the county park on the eastern shoreline. Residents should keep a watch on nearshore aquatic plants to catch early infestations of Eurasian milfoil, Brazilian elodea or other noxious aquatic weeds.

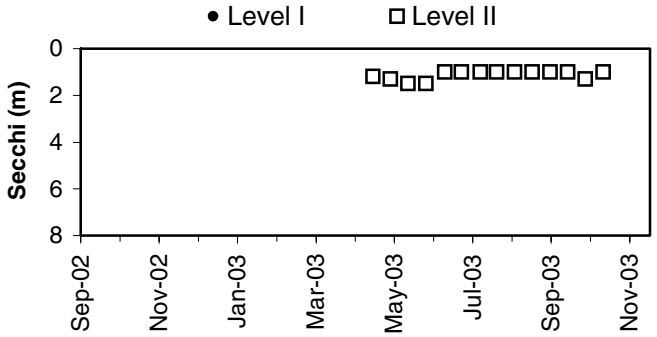
Physical Parameters

The Secchi transparency during the sampling season was very steady, between 1 and 1.5m, consistent with the impact of the water color. Level II surface water temperatures reached 24.5 degrees Celsius in July. There were no precipitation or water level records for the year.

Lake Temperature



Secchi Depth



Lake Level and Precipitation

No Data Available

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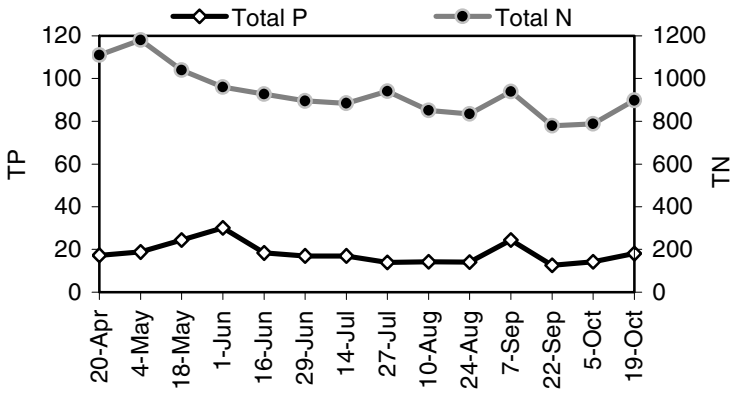
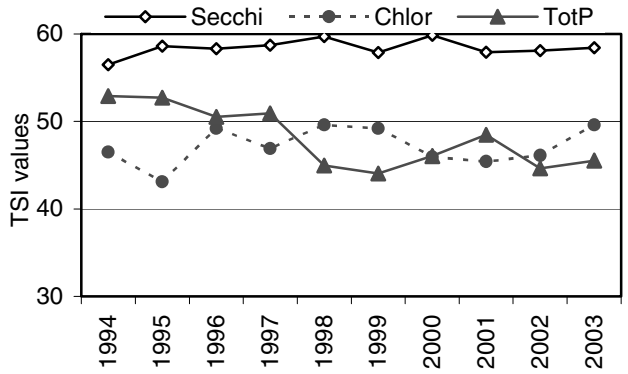
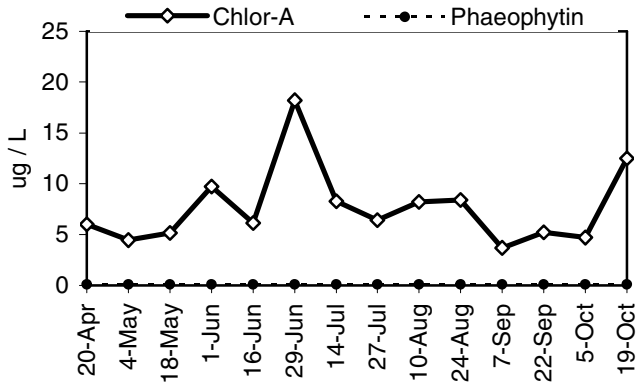
Nutrient Analysis



TSI Ratings



Chlorophyll a Concentrations (ug/L)



Common algae	Group
Dinobryon spp.	chrysophyte
unidentified species	chrysophyte
Cryptomonas spp.	cryptophyte

Nutrient Analysis and TSI Ratings

Total nitrogen and phosphorus remained relatively constant through the sampling period, with nitrogen declining slightly in spring. The N:P ratio ranged from 32 to one value of 68. The 2003 TSI-Secchi was considerably higher than other TSI values similar to other years, suggesting it is significantly affected by water color. The other two indicators are in the mesotrophic range.

Chlorophyll and Algae

Chlorophyll reached a peak in late June and was rising again at the end of the sample season in October. The spring peak was dominated by a variety of chrysophytes, in particular the genus *Dinobryon*. Other common species included several *Cryptomonas* species and the dinoflagellate *Ceratium*. The bluegreen *Aphanizomenon flos-aquae* was present in small amounts at times.

No Level I Data
Available For This Lake

Fivemile **2003 Level II Data**

Date (2003)	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI			Notes
								Secc	chl-a	TP	
20-Apr	14.0	1.2	6.0	17.3	1110	3	64	57.4	48.2	45.3	
4-May	14.5	1.3	4.5	18.7	1180	1	63	56.2	45.2	46.4	
18-May	16.0	1.5	5.1	24.4	1040	1	43	54.1	46.6	50.2	M.Murphy noted P2 from waterbottle left w/ sample.
1-Jun	20.5	1.5	9.7	30.0	959	1	32	54.1	52.9	53.2	
16-Jun	19.5	1.0	6.1	18.3	927	1	51	60.0	48.3	46.1	
29-Jun	24.0	1.0	18.2	16.9	895	1	53	60.0	59.0	44.9	KC Staff noted P2.
14-Jul	23.0	1.0	8.3	17.0	885	1	52	60.0	51.3	45.0	
27-Jul	24.5	1.0	6.4	13.9	940	2	68	60.0	48.8	42.1	
10-Aug	23.0	1.0	8.2	14.3	852	1	60	60.0	51.2	42.5	
24-Aug	23.0	1.0	8.4	14.1	835	1	59	60.0	51.5	42.3	At the higher range of P1 this week.
7-Sep	22.0	1.0	3.7	24.3	938	1	39	60.0	43.4	50.2	
21-Sep	18.0	1.0	5.2	12.6	780	1	62	60.0	46.8	40.7	Fewer noticeable particles this week.
5-Oct	17.0	1.3	4.7	14.2	788	1	55	56.2	45.8	42.4	
19-Oct	13.5	1.0	12.5	18.0	898	1	50	60.0	55.3	45.8	
	Temp (°C)	Secchi (m)	Chl-*a* (µg/l)	TP (µg/l)	TN (µg/l)	Algae Obsv.	N:P	Calculated TSI			
								Secc	chl-a	TP	
Mean	19.5	1.1	7.6	18.1	930.5	1.2	54	58.4	49.6	45.5	**TSI Average = 51.2**
Median	20.0	1.0	6.3	17.2	912.5	1	54	60.0	48.6	45.1	
Min	13.5	1.0	3.7	12.6	780.0	1	32	54.1	43.4	40.7	
Max	24.5	1.5	18.2	30.0	1180.0	3	68	60.0	59.0	53.2	
Count	14	14	14	14	14	14	14	14	14	14	